From Hay to Healthy Pastures: How Bale Grazing Works

PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION
APPLIED RESEARCH

Bale grazing is a winter feeding practice where large round or square hay bales are strategically placed in a pasture for livestock, usually cattle, to graze on over time. Instead of hauling feed to the animals daily, the bales are left in the field, often in a planned grid or rotation system. Bale grazing is most effective when done in a planned and rotational manner to ensure the pasture isn't overgrazed or damaged. Producers can bale graze on annual cropland or seeded perennial forages, with seeded perennials being preferable.

This practice has several benefits

1. Improved Soil Health: The manure from the livestock enriches the soil, adding organic matter and nutrients, which can enhance pasture growth for future grazing seasons.
2. Cost-effective: utilizing pasture space for feeding can reduce the need for dedicated feeding areas or barns and make the most of available land.
3. Reduced Feed Wastage: Instead of feeding hay in a central location, which can lead to waste as animals trample on it, bale grazing allows the hay to be consumed more efficiently.
4. Improved Land Management: It can help break up overgrazed areas, redistribute nutrients, and create more diverse grazing spaces.

Important Things to Note for Bale Grazing

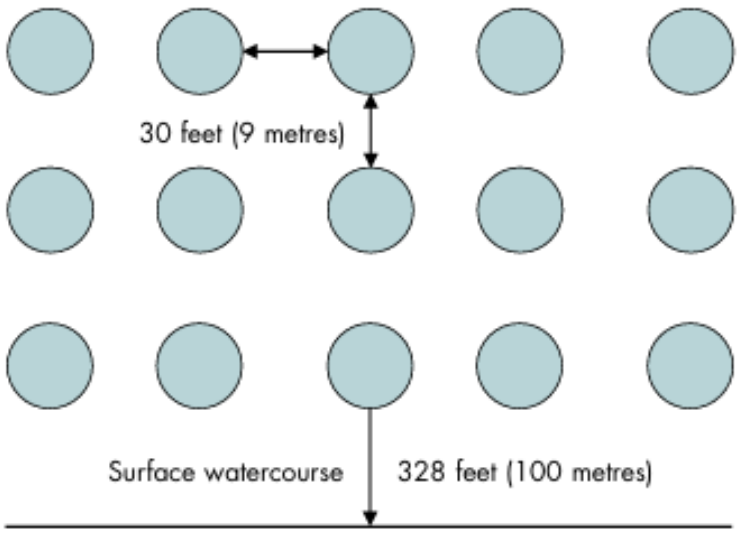
- Feed test before ensuring hay has the right protein, energy, and fiber levels to meet livestock needs.
- Bale should be spaced properly to prevent overgrazing and compaction.
- Provide shelter around the feeding area using trees or portable windbreaks - windbreaks or tree lines.
- Some waste is inevitable.
- Livestock still need a reliable water source nearby.
- Use gently sloping land to minimize water pooling and nutrient runoff.
- Avoid bale grazing in flood-prone areas or close to sensitive water sources.

Few tips for setting up a bale grazing system

- Select fields for bale grazing to improve forage production and soil health - choose fields with low fertility or areas that need organic matter and nutrient enrichment.
- Position bales wrapped with sisal twine on their sides, allowing the twine to decompose naturally.
- Place bales wrapped with plastic twine on their ends so the twine can be easily removed in the fall before feeding.
- To prevent livestock from accessing the next set of bales too soon, use an extra lead wire for fencing or a double-wire system (a hot wire on top and a second wire connected to a solid ground source).

- Figure 1 below: Arrange bales in a grid pattern with 40-foot centers, leaving 30 to 35 feet (9 to 10 meters) between them to ensure even manure nutrient distribution.
- Place wire between rows to facilitate animal movement to the next feeding area.
- Ensure bale grazing areas are at least 328 feet (100 meters) away from surface watercourses, sinkholes, springs, or wells.
- Design bale grazing sites to prevent surface runoff from entering watercourses.

Figure 1



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Research conducted by the Peace Country Beef & Forage Association has demonstrated that bale grazing can significantly enhance soil fertility and forage production. In a study examining soil nutrient trends and forage yield after one to three years of bale grazing, findings revealed substantial increases in soil organic matter and nutrient content, particularly nitrogen, phosphorus, and potassium. These improvements were more pronounced in the top 15 cm of soil. Consequently, forage dry matter yield in bale-grazed areas was up to five times higher than in control areas, with enhanced crude protein content in the forage.

Further research comparing various pasture rejuvenation methods found that bale grazing consistently produced higher forage yields than other techniques, including sub-soiling, break and re-seeding, and high stock density grazing. Over two years, bale grazing resulted in up to 100% higher forage dry matter yield at one site and 219% at another. However, when accounting for the cost of hay bales, bale grazing was more expensive than other methods.

Overall, these studies suggest that bale grazing is an effective strategy for improving soil health and increasing forage production, though cost considerations should be taken into account when selecting pasture rejuvenation methods.

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